

PATENT Attorney Docket No. 440561/PALL

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICI

In re Application of:

STEVENS et al.

Application No. 10/069,935

Filed: June 28, 2002

For: WATER TREATMENT SYSTEMS AND

METHODS

Group Art Unit: 1723

Examiner: Unassigned

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents Washington, D.C. 20231

Pursuant to 37 CFR 1.97 and 1.98, the references listed on the enclosed Form PTO-1449 and/or Substitute Form PTO-1449 ("Form 1449") are submitted for consideration by the Examiner in the examination of the above-identified patent application.

The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form 1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form 1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above-identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so.

Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved.

The Information Disclosure Statement is being filed:

within any one of the following time periods: (a) within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d); (b) within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 of an international application; (c) before the mailing date of a first Office Action on the merits; or (d) before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

In re Appln. of Stevens et al. Application No. 10/069,935

	after (a), (b), (c) or (d) above, but before the mailing date of a final action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and includes <i>one</i> of:						
		the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below).					
	\Box	the fee of \$180 set forth in 37 CFR 1.17(p) (see "Fees" below).					
	under and o 37 CF	the mailing date of a final action under 37 CFR 1.113 or a Notice of Allowance 37 CFR 1.311, or an action that otherwise closes prosecution in the application, n or before payment of the issue fee, and includes the Statement under R 1.97(e) (see "Statement under 37 CFR 1.97(e)" below), and the fee of \$180 as th in 37 CFR 1.17(p) (see "Fees" below).					
	payme contain 37 CF \$180 a NOTE: May 29	the mailing date of a Notice of Allowance under 37 CFR 1.311, and on or before ent of the issue fee, and within thirty days of receiving each item of information need in the Information Disclosure Statement, and includes the Statement under R 1.704(d) (see "Statement under 37 CFR 1.704(d)" below), and the fee of its set forth in 37 CFR 1.17(p) (see "Fees" below). This is for original applications except applications for a design patent, filed on or after 2000, wherein a paper containing only an Information Disclosure Statement in compliance CFR 1.97 and 1.98 is being filed.					
Copie	s of the	References					
\boxtimes	Attach relevan an Eng action degree	s of the references listed on the enclosed Form 1449 are enclosed herewith, and to each reference not in the English language is a concise explanation of the nace pursuant to 37 CFR 1.98(a)(3). An English-language equivalent/patent, or glish-language abstract, or an English-language version of the search report or by a foreign patent office in a counterpart foreign application indicating the of relevance found by the foreign office is being submitted in lieu of a concise ation of the relevance pursuant to 37 CFR 1.98(a)(3).					
\boxtimes	A copy	y of the foreign search report is enclosed herewith.					
	parent furnish submit The B accord Proced relied	eferences listed on the enclosed Form 1449 were previously identified in the application(s) of the present application, and copies of the references were need at that time. Accordingly, additional copies of the references are not need the ted herewith, so as not to burden the file with duplicate copies of references. Examiner is respectfully requested to carefully review the references in ance with the requirements set out in the Manual of Patent Examining lure. In accordance with 37 CFR 1.98(d), the details of the parent application(s) upon for an earlier filing date under 35 USC 120 in which copies of the nees were previously furnished are set out below:					

In re Appln. of Stevens et al. Application No. 10/069,935

	U.S. APPLIC	CATIONS	Sı	tatus (check o	one)					
U.	S. APPLICATIONS	U.S. FILING DATE	PATENTED	PENDING	ABANDONED					
1.										
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Staten	nent under 37 CFR	1.97(e)								
	The undersigned hereby states that each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign patent application not more than three months prior to the filing of the Information Disclosure Statement.									
	The undersigned hereby states that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the Information Disclosure Statement.									
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	Information Disclo office in a counter any individual desi	hereby states that each sure Statement was cited part application and that gnated in 37 CFR 1.560 Disclosure Statement.	d in a commun t this commun	ication from ication was	a foreign patent not received by					
Fees										
	No fee is owed by The IDS Fee of \$1	the applicant(s). 80 under 37 CFR 1.17(p) is enclosed h	erewith.						
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In re Appln. of Stevens et al. Application No. 10/069,935

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Respectfully submitted,

Leah Robinson, Reg. No. 44,990 LEYDIG, VOIT & MAYER

700 Thirteenth Street, N.W., Suite 300

Washington, DC 20005-3960 (202) 737-6770 (telephone) (202) 737-6776 (facsimile)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary) of

Complete if Knowp 10/069,935 Application Number Filing Date June 28, 2002 First Named Inventor **STEVENS** Group Art Unit 1723 Unassigned **Examiner Name** Attorney Docket Number 440561/PALL

		U.S. Patent Docur		J.S. PATENT DOCUMENTS		
Examiner Initials	Doc. No.	Application or Patent Number	Kind Code	Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
1	1	2,072,416		Berndt et al.	3/2/37	7,550,000
	2	2,072,417	1	Berndt et al.	3/2/37	
	3	2,482,507		Rentschler et al.	9/20/49	1
	4	2,930,706		Moulton	3/29/60	
	5	3,067,115		Clingman, Jr.	12/4/62	
	6	3,814,680		Wood	6/4/74	
	- 7	3,817,703		Atwood	6/18/74	
	8	3,846,072		Patterson	11/5/74	
	9	3,929,671		Nakamura et al.	12/30/75	
	10	3,934,044		Busch et al.	1/20/76	
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	19	4,327,276		Injushin et al.	4/27/82	
	20	4,346,131		Yoldas	8/24/82	
	21	4,390,432		Takeguchi et al.	6/28/83	1
	22	4,391,080		Brody et al.	7/5/83	
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	24	4,424,188		DiGeronimo	1/3/84	
	25	4,437,954		Sammells et al.	3/20/84	
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	29	4,534,282		Marinoza	8/13/85	
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	39	4,769,131		Noll et al.	9/6/88	
	40	4,800,090		August	1/24/89	

Examiner Signature	Date Considered	

^{*} A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

* An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).

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		•	(J.S. PATENT DOCUMENTS		
		U.S. Patent Docume	nt			
Examiner Initials	Doc. No.	Application or Patent Number	Kind Code	Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
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	42	4,871,559		Dunn et al.	10/3/89	
	43	4,892,712		Robertson et al.	1/9/90	
	44	4,902,411		Lin	2/20/90	
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	46	4,910,942		Dunn et al.	3/27/90	
	47	4,966,759		Robertson et al.	10/30/90	
-	48	4,968,891		Jhawar et al.	11/6/90	
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	50	5,032,241		Robertson et al.	7/16/91	
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	79	5,679,257	700	Coate et al.	10/21/97	
	80	5,685,994		Johnson	11/11/97	

Examiner Signature	•	Date Considered	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Examiner Initials	Doc. No.	Application or Patent Number	Kind Code	Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
	81	5,711,887		Gastman et al.	1/27/98	
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•					EIGN PATENT93 DOCUMENTS			
Foreign Patent Document Examiner Application or Kind					94		Tran	slation
Examiner Initials	Doc. No.	Office	Application or Patent Number	Kind Code	Name of Patente95e or Applicant	Date of Publication	Yes	No*
	90	DE	196 14 214		Herhof Umwelttechnik G96mbH	10/16/97		X+
	91	DE	197 53 386		Shang Jianming Dr. Ing.	6/10/99	•	X+
	92	DE	263449		Ittner	9/24/12	Х	
	93	EP	306 301		Henderson	3/8/89		
	94	EP	288 746		Hüls Aktiengesellschaft	11/2/88	X	
	95	EP	313 409		Duthie, Jr.	4/26/89		
	96	JP	60-102157		Myojyo Foods K.K.	6/6/85	Х	
	97	JP	60-118289		Giken Kogyo K.K.	6/25/85	X	
	98	JP	61-97102		Nippon Ita Garasu K.K.	5/15/86	X	
	99	NL	7502834		AB Ziristor	9/15/75	X	
	100	UK	521,189		Hommel	10/11/39		
	101	UK	1,052,513		Edgerton, Germeshausen & Grier	12/21/66		
	102	UK	1346521		Multiblitz DR. Ing. D.A. Mannesmann GmbH & Co.	2/13/74		
	103	UK	1 448 411		Electricity Council	9/8/76		
	104	UK	1 548 997		Dentsply Intl. Inc.	7/25/79		
	105	UK	2 047 565		Asahi-Dow Ltd.	12/3/80		
	106	UK	1 581 998		Applied Photophysics Ltd.	12/31/80		

Examiner Signature	Date Considered

A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

⁺ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).

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	ase type a plus sign (+) inside this box — H Distitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) JAN 2 4 2003 Application Number 10/069,935 Filling Date June 28, 2002 First Named Inventor STEVENS Group Art Unit 1723 Examiner Name Unassigned	Unassigned			
Sheet	4	of	6	Attorney Docket Number	440561/PALL

Attorney Docket Number 440561/PALL

F		OTHER - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item	Tron	slation
Examiner Do Initials	Doc. No.	(book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Yes	No**
	107	"6.0 Ultraviolet (UV) Disinfection," Final Report, West Basin WRP Expansion No. 2 Study, pp. 53-59.		
	108	"ACPOP – Nutech's Organic Pollutant Treatment" (2 pages).		
	109	"Biofouling," Water (Industrial), Kirk-Othmer Encyclopedia of Chemical Technology, 4 th Ed., 1998, vol. 25, pp. 520-523.		
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	111	"Membrane Separation Processes," Water (Supply and Desalination), Kirk-Othmer Encyclopedia of Chemical Technology, 4 th Ed., 1998, vol. 25, pp. 470-478.		
	112	"Microza LGV Series: Ultrafiltration Modules," Pall Corporation, © 1995 (6 pages).		
-	113	"Municipal," Water (Municipal), Kirk-Othmer Encyclopedia of Chemical Technology, 4 th Ed., 1998, vol. 25, pp. 526-539.		
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	115	"Protect Your Water," Sterlight Inc. (4 pages).		
	116	"PureBright PBW-250 UHP Water Treatment Product Features," PurePulse Technologies (1 page).		
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	118	"Riptide 8," Pulsar Environmental Remediation Technologies, Inc., ©1998, 1999, (1 page).		
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****	120	"Sewage," Water (Sewage), Kirk-Othmer Encyclopedia of Chemical Technology, 4 th Ed., 1998, vol. 25, pp. 540-560.		
	121	"The PureBright® Process," Purepulse Technologies, Inc., pp. 1-9		
	122	"Using Photocatalysts, Japanese Firm Develops Antibacterial Tiles and Sanitary Ware," (2 pages).		
	123	"Wastes, Industrial," Wastes Industrial, Kirk-Othmer Encyclopedia of Chemical Technology, 4 th Ed., 1998, vol. 25, pp. 325-361.		
	124	"Welcome to the Pulsar Website!", Pulsar Environmental Remediation Technologies, Inc., ©1998, 1999, (2 pages).		
	125	Bender, James B., "Photolytic Oxidation of Contaminated Water Using the RipTide Water Purification System," Pulsar Environmental Remediation Technologies, Inc., ©1998, 1998, pp. 1-26.		8
	126	Bolton, James R., "Ultraviolet Applications Handbook," Bolton Photosciences Inc., ©1999, pp. 1-28.		

Examiner	Date	
Signature	Considered	*

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Substitute for for	INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) Sheet 5 of 6	TRAD	Application Number	10/069,935	
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STA [*]	TEMENT BY	/ AP	PLICANT	Group Art Unit	1723
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P		OTHER - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item						
Examiner Initials	Doc. No.	(book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Yes	No*+				
	127	Brinker et al., "Sol-Gel Derived Antireflective Coatings for Silicon," Solar Energy Materials, 5, 1981, pp. 159-172.						
	128	Carey et al., "Photodechlorination of PCB's in the Presence of Titanium Dioxide in Aqueous Suspensions," Bulletin of Environmental Contamination & Toxicology, Vol. 16, No. 6, 1976, pp. 697-701.						
	129	Fan, et al., "Integrated Chemical Systems: Photocatalysis at TiO₂ Incorporated into Nafion and Clay," J. Phys.Chem., 1985, 89, pp. 4418-4420.						
	130	Glaskin, Max, "Kill the Bugs to Cure the Building," New Scientist, Technology, March 11, 1995.						
	131	Hsiao et al., "Heterogeneous Photocatalysis: Degradation of Dilute Solutions of Dichloromethane (CH₂Cl₂), Chloroform (CHCl₃), and Carbon Tetrachloride (CCl₄) with Illuminated TiO2 Photocatalyst," Journal of Catalysis, 1983, 82, pp. 418-423.						
,	132	Ireland et al., "Inactivation of <i>Escherichia coli</i> by Titanium Dioxide Photocatalytic Oxidation," Applied and Environmental Microbiology, May 1993, Vol. 59, No. 5, pp. 1668-1670.						
	133	Johnson, Tom, "Flashblast – the light that cleans," Popular Science, July 1982, pp. 82-84.						
	134	Mallevialle et al., "Configuration," Water Treatment Membrane Processes, pp. 9.4-9.5.						
	135	Mallevialle et al., "System Design," Water Treatment Membrane Processes, pp. 1.21-2.24.						
	136	Marshall, Tom, "Deadly Pulses," Water Environment & Technology, April 1999, pp. 37-41.						
	137	Marshall, Tom, "Emerging UV Disinfection Technology – Pulsed UV (PUV)," Water Environment & Technology, April 1999, (9 pages).						
	138	Matthews, Ralph W., "Carbon Dioxide Formation from Organic Solutes in Aqueous Suspensions of Ultraviolet-Irradiated TiO₂. Effect of Solute Concentration," Aust. J. Chem., 1987, 40, pp. 667-75.						
	139	Matthews, Ralph W., "Hydroxylation Reactions Induced by Near-ultraviolet Photolysis of Aqueous Titanium Dioxide Suspensions," J. Chem. Soc., Faraday Trans. 1, 1984, 80, pp. 457-471.						
	140	Matthews, Ralph W., "Photooxidation of Organic Impurities in Water Using Thin Films of Titanium Dioxide," J. Phys. Chem., 1987, 91, pp. 3328-3333.						
	141	Matthews, Ralph W., "Photo-Oxidation of Organic Material in Aqueous Suspensions of Titanium Dioxide," 1986, Vol. 20, No. 5, pp. 569-578.						
	142	Matthews, Ralph W., "Solar-Electric Water Purification Using Photocatalytic Oxidation with TiO2 as a Stationary Phase," Solar Energy, 1987, Vol. 38, No. 6, pp. 405-413.						
	143	Pall Hollow Fiber Filtration Systems, Selection Guide Element Data Sheet WP-1, Pall Corporation, @1998.						
	144	Pettit et al., "Use of Sol-Gel Thin Films in Solar Energy Applications," Solar Energy Materials, 14, 1986, pp. 269-287.						
	145	Rentschler et al., "Bactericidal Effect of Ultraviolet Radiation," Research Dept., Westinghouse Lamp Division, Bloomfield, N.J., 1940, pp. 745-774.						

Examiner Signature	,	Date Considered	
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^{*} A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

⁺ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).

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INFO	RMATION	DISC	COSURE	Filing Date	June 28, 2002
				First Named Inventor	STEVENS
SIA	TEMENT BY	AP	PLICANI	Group Art Unit	1723
	(Use as many sheet			Examiner Name	Unassigned
Sheet	6	of	6	Attorney Docket Number	440561/PALL

		OTHER - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item		
Initials	Doc. No. (book, magazine, journal, senal, symposium, catalog, etc.), date, page(s), volume-issue number (publisher, city and/or country where published.			No*
	146	Sabate et al., "A Kinetic Study of the Photocatalytic Degradation of 3-Chlorosalicylic Acid over TiO ₂ Membranes Supported on Glass," Journal of Catalysis, 127, 1991, pp. 167-177.		
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